The diverging South : comparing the cashew sectors of Tanzania and Vietnam

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Contrasting tales of value chains

Introduction

A precarious vicious circle of low yields in Tanzania and a stable virtuous circle of high yields in Vietnam, due to factors observed at household level and as discussed in Chapter 4, serve as a bridge to this chapter. So far the differences between Tanzania and Vietnam have been shown at sector and household levels. Using contrasting economic history, Chapter 2 set the stage by looking at the common roots of the two economic systems that were adopted under socialism. In their respective histories, what is common to both Tanzania and Vietnam is the high percentage of their population that lives in the rural areas, their planned economies and later the adoption of a free market. The transition from socialism to liberalization (free market) saw an increase in the production of different produce in terms of crops and other goods in Vietnam, while erratic trends have been observed in Tanzania, as was seen in Chapter 3. Focusing specifically on cashew, Chapter 4 showed sharp contrasts between households in Vietnam, a newcomer in raw cashew production, and in Tanzania, an old timer. As with other African countries, production is on the rise in Tanzania but improvements in productivity remain a challenge.[1] There is stronger differentiation among cashew farmers within Tanzania and between Vietnam and Tanzania, for instance, the amount of land owned is higher in Tanzania than in Vietnam. The case of cashew points to discrepancies in cashew output, yield, productivity, tree density, the age of trees, proneness to disease and the availability of tools and inputs between Tanzania and Vietnam. What emerges from the divergence observed is how the actors in the sector interact. This is the focus of this chapter which looks at the premise that the value chains operate differently

[1] See Dietz (2011: Section 3) for an overview of the expansion in cropping areas, yield and productivity.

The erratic trends in production in Tanzania, I would argue, are due to the numerous reversals in policies, with the peasant always being treated as a residual on the margin and without flexibility. This happened mainly with processing being an afterthought as a way of utilizing excess produce, i.e. the adoption of forward linkage leading to an unbalanced value chain. On the other hand, the skyrocketing of cashew production in Vietnam, I argue, is due to the adoption of strategic policies, with the peasant provided with flexibility. This, I further argue, was made possible with processing being considered as central to the cashew sector, i.e. the adoption of a backward linkage leading to a balanced value chain. Looking at the value chain like this implies that price allocates resources by itself but, as will be shown, there is a need for formal coordination to overcome inefficiencies.

The chapter focuses on the meso and sector levels of marketing dynamics and presents the coordination systems of the cashew market by adopting a Global Value Chain (GVC) framework. The functioning of each strand in the chain depends on the interaction of the actors within it. The implementation of an industrial policy in Vietnam versus the opportunistic policy in Tanzania has ensured increased production and erratic production in the two countries respectively.

Firms as secured entities have room for innovation (Penrose 1959). In economics, a market clearing price is obtained and resources are allocated efficiently under perfect competition but, in the real world, the pursuit of self-interest by the market may not yield the best solutions. In areas where there are not many buyers and sellers and with information asymmetry and barriers to entry or exit, the allocation of resources becomes imperfect and leads to market failure, i.e. the market cannot allocate resources efficiently (Wood 2001). These market failures need to be corrected by state involvement. This can be seen as government intervention bringing governance to the chain and potentially more power to producers. The cases of cashew in Tanzania and Vietnam show how market failures can be tackled by different processes of coordination. In Vietnam, downstream and upstream stakeholders are linked with coordination providing inclusive incentives to all actors. Coordination in Tanzania provides exclusive incentives to mainly downstream actors, i.e. to a single stakeholder, namely the farmer.

Creating space for actors to perform in the value chain

Actors in the market are organized differently depending on time and space. Global Value Chain (GVC) analysis explores and predicts how nodes of value adding activities are linked in the spatial economy (Sturgeon 2009). GVC assists in understanding the governance structure of tradable goods and ‘describes the full range of activities that firms and workers do to bring a product from its con-

ception to its end use and beyond'.[2] GVC has been evolving since Gereffi (1994) announced that the two static forms of governance were either buyer driven or producer driven. Initial research on value addition was mainly focused on manufacturing in the automobile and electronics sectors[3] and case studies provided useful information but lacked rootedness. Work on value chains that focuses on crops produced in poor countries and consumed in rich countries[4] has gained prominence since the mid-1990s, especially following the so-called GVC initiative in 2000.[5] This research assumed that the governance of the chain is consistent at all the different nodes in it. Commodity chains are rooted as they originate from a particular place, especially when referring to extractive commodities. For consistency, these commodity chains are simply referred to as a 'value chain' in this chapter.

Following Talbot (2009), it is acknowledged that the governance of the value chain differs within a commodity chain (see Chapter 3). In addition, different actors play key roles in different parts of the chain. Coordination is required to ensure that inputs are provided on time, output is traded promptly and processing is not disrupted. If such a situation exists, transaction costs are minimized and production is maximized with a high equilibrium. Coordination needs to occur among downstream actors, upstream actors and at the sectoral level. However, coordination problems may lead to multiple equilibriums and delays at any level are costly and result in a lower equilibrium with less return for producers.

The coordination of actors comes about through forward linkage or backward linkage. Inasmuch as actors higher up in the chain create more value, the relationship among actors in a value chain affects the quality of the entire chain. Compatible partnerships ensure efficiency while incompatible partnerships lead to inefficiencies. In a balanced value chain, upstream actors have strong linkages with downstream actors who are more flexible, while in an unbalanced value chain, there is a weak linkage with downstream actors that is often captured[6] by upstream actors that thus remain rigid and are treated unfairly, mainly as residual.

The operating environment of a sector is crucial; adopting strategic policies or opportunistic policies makes a difference. Strategic policies provide room to learn through trial and error, while opportunistic policy leaves little room for knowledge creation and utilization.

Market failure highlights the issue of contracting. Contracts are needed because one party may have more or better information, which is termed 'asymmet-

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2 See http://www.globalvaluechains.org/concepts.html

3 For more information, see Barnes & Kaplinsky (2000) in Kaplinsky & Morris (2001).

4 Gereffi (1994, 1999), Cramer (1999), Dollan & Humprey (2000), Gibbon (1997), Gibbon & Ponte (2005) and Gibbon *et al*. (2010).

5 A network of researchers that consolidates information on GVC.

6 Global Value Chain Initiative: http://www.globalvaluechains.org

ric information', and the presence of transactional costs can lead to uncertainty. Contracts can be a basic understanding or agreement provided by word of mouth or can be written down on paper. Though not the preferred outcome, this may happen as a result of changes in the market environment that make it impossible for one party to keep their side of the deal. Given the gestation period of a crop, the nature of contracting among cashew-sector actors is crucial.[7] [8] For trading to occur, coordination is thus key and linkage is created between downstream and upstream actors. The presence of a strong domestic raw material supply to upstream actors is attributed to low transportation costs, little bureaucracy and reliable quality control. Since upstream actors have invested in machinery, they are vulnerable and may face hold-up problems.[9] This can lead to under-investment and inefficiency (Klein *et al*. 1978). Given economic freedom, downstream producers produce a product with better returns and upstream producers are obliged to pay a reasonably good price to encourage downstream producers to provide the raw materials they require. The economic freedom to choose other products by downstream actors is a credible threat as actors incur sunk costs that make them vulnerable (see Chapter 4).

Due to information asymmetry on the quality of the produce offered, buyers would play safe when offering their price. If the offered price is high, farmers will continue to produce. If the offered price is low, this would discourage production of good-quality produce and the market will be left with low-quality goods, signifying a typical 'lemon' problem (Akerlof 1979). Without cooperation among buyers and sellers to enhance the quality of production, the buyer and seller will offer a low price and low quality in anticipation of others doing the same, a typical 'Prisoners' Dilemma' problem. In reality, this would lead to low yield/output and a low price, i.e. a low-yielding equilibrium. And as was seen in the previous chapter, a low price affects production in future seasons. For markets to work, a sound institutional set-up that thrives on enhancing the operation of the market in a self-monitoring way is needed. A thin market tends to create a monopoly or monopsony situation, neither of which is efficient in allocating resources but which is, instead, a way of letting a few actors accumulate wealth by creating artificial barriers at the expense of others.

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7 The uncertainty in production streams and prices leads to implicit contracting. The marketing of goods occurs in accordance with the level of uncertainty involved. Goods such as sugar, farm inputs and household utensils are sold through spot marketing. Spot contracts operate with buyers and sellers trading their output once a price has been given.

8 The discussion on contracts goes hand in hand with that on trust. Trust is created over time and farmers learn from past events. A trader who is engaging with farmers for the first time will only get produce and this will not guarantee that if the trader returns, he will be successful again.

9 For more information, see Williamson (1975, 1977), Hart *et al*. (1988), Rogerson (1992), Hart (1995) and Mackintosh (2001).

A change in price (both relative and absolute) leads to a reaction from all types of cashew farmers. The type of payment paid to the farmers also affects production. Downstream actors receive a core payment or a residual payment. A core payment involves receiving revenue without transaction costs associated with marketing. Receiving residual payment means that farmers pay for inefficiencies at other levels in the value chain. In other words, residual payment means receiving revenue after deducting any marketing-related costs. This situation is worse in bad years as marketing costs are not adjusted according to output. This can be attributed to the lack of industrial policy that strategically integrates all actors in the sector. In the end, low prices discourage personal effort and downstream actors have little incentive to improve the quality of their produce.

Economies of scale are made by continued commitment to growth brought about by the long-term effects of increased production with falling average production costs (Penrose 1959). Economies of scale are strongest when there is relational contracting and the actors at all the different levels benefit from best performances as profit is maximized. Diseconomies of scale occur when there is little to no coordination among actors and goods are continually produced at an increasing cost per unit. Such diseconomies of scale are expected to be short term and every time a product is traded, a new contract appears with little coordination of the consequences related to the previous actions of any actor.

Downstream actors make reasonable investments and thus also incur sunk costs and hold-up problems. The bargaining position of downstream actors changes after production (Gow *et al.* 1998). They prefer to receive the highest price for their produce and in a timely fashion. The price received in any one season affects the efforts put into production in the next season. A high price means that downstream actors will firstly continue producing and tending their farms and also that they are more likely to expand or upgrade them. On the other hand, a low price means that downstream actors will be more inclined to discontinue production, not tend their farms properly or even sell or abandon them.

Linking downstream and upstream is important for integrating all the actors involved and creates a self-governing mechanism in the form of implicit contracting.[10] If local upstream actors are unable to offer a reasonable price, upstream actors from other countries will seize any opportunities presented. If not rectified, this type of contract arrangement aggravates the problem of low-quality produce or lemons, especially with the restrictions on non-local actors' participation due to their low resource base.

[10] Uncertainties in the production stream and over prices lead to implicit contracting.

Methodology

This chapter contrasts cashew value chains in Tanzania and Vietnam by looking at the important roles played by the various actors within the chain at the different stages. As seen in the previous chapter, cashew farmers are also involved in other activities but in Tanzania, most of funding for other activities depends on their income from cashew production. The cashew processors in Tanzania and Vietnam mainly produce kernels but are also involved in the production of cashew nut shell liquid (CNSL) and other milling products. The cashew value chain is not a rigid phenomenon and has changed in nature over time. Looking at the current organization of cashew marketing can help explain some of the differences using the history of evolving marketing systems. Cashew has moved from being a wild crop used to give shade to a commercial crop in both Tanzania and Vietnam. This has involved changes in the appearance of the tree, which is now a resource that needs to be cared for and whose product is traded worldwide. Visits to key stakeholders in the cashew sector in Tanzania and Vietnam were conducted for comparative purposes, with key informant interviews being held with processors, government departmental heads in the cashew-related ministries, research institutions and coordinators of (input and output) marketing.

A desk review of relevant data supplied or recommended by key informants was also carried out. This information was supplemented by the researcher's own observations. With the premise that value chain operate differently in Tanzania and Vietnam, the chapter is organized as follows. Before analysing the position of the actors in the chain itself, it begins with a section covering Tanzania and later Vietnam. It considers the organization of the current marketing of raw cashew, processed cashew (kernels) and inputs and the support system for cashew producers. The last section before the conclusion tries to synthesize the observed differences.

Tanzania

Tanzania has shown a low-level equilibrium with regards to production of cashew with high volatility. As seen in Chapter 3, the cashew sector in Tanzania has experienced four kinds of marketing. Initially there were cooperatives, then marketing boards and later private traders (with the liberalization of the economy) and finally the Warehouse Receipt System. A constant feature to all these different kinds of marketing is the farmers' income. It is a residual, therefore bearing most of the cost burden with little room to manoeuvre. This section will ascertain these findings.

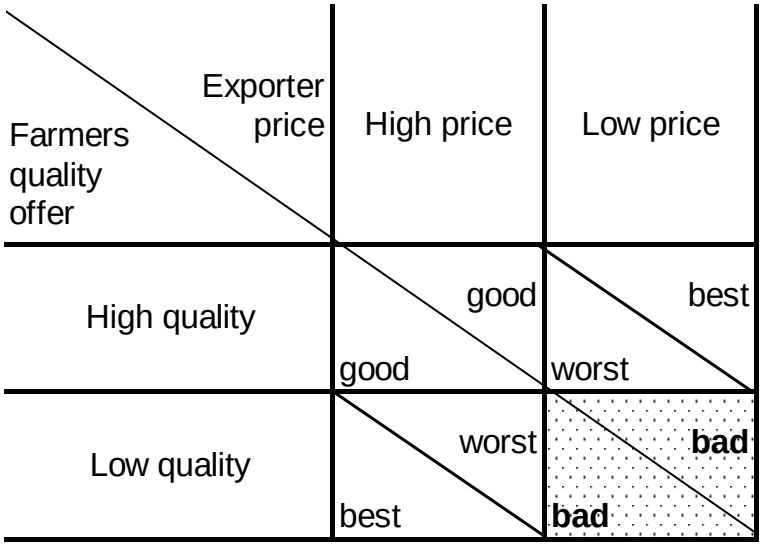
Radical reversals in marketing raw cashew in Tanzania

Tanzania has two types of traders: private and multi-tiered government-led traders. The cashew sector in Tanzania has experienced repeated and radical institutional changes that have affected both the quality and the quantity of the cashew produced. These many reversals of policy and implementation have affected the institutional set-up. Opportunist policy limits the room for stability in Tanzania. Such a set-up leaves little room for learning from below. Tanzania had marketing boards, crop authorities and a free market was seen in Chapter 2. Interlocking markets in a market-tiered system supplied inputs on loan and enforced a residual payment system to farmers. As noted in Chapter 3, production increased in places where there was no disease in the past but forced villagization and unfair compensation to farmers regardless of the increased world price led to a fall in production. Kriesel (1970) concluded that prices paid to farmers were artificially held down by the National Agricultural Products Board in order to offer higher prices for maize and cassava. This acted as a disincentive as the marketing boards determined the price offered to farmers and, with falling prices, farmers neglected their trees and farms. The entire cost was borne by the farmers who received residual payments, where the marketing cost was off-loaded from inefficiencies higher up in the market. Until 1992 the marketing boards were parasitic and shifted the entire burden onto the farmers.

When Tanzania adopted its SAP in the mid-1980s, the support system was dismantled, the state halted its coordination of the sector, infrastructure was left undeveloped and grading was not taken seriously. In Tanzania, liberalization resulted in splitting the market for input and output, with buyers more interested in output. Liberalization introduced private traders and the state withdrew from involvement in the production of all sectors. During liberalization, prices fluctuated between and within seasons. The withdrawal of government support resulted in a collapse in coordination and severe credit shortages for inputs. This led to the production of low-quality produce, i.e. lemons. The argument goes as follows; there are a number of farmers (downstream actors) in a sector who produce raw cashew of quality $\{Q_{1,} Q_{2,} Q_3 ... Q_{P1} ... Q_{P2} ... Q_N\}$ where (1, 2, 3 ..., P1 ... P2 and N) denotes the grade of cashew, with a lower number indicating superior quality. Q_1 output is of a higher quality than Q_{10} output. Buying agents (i.e. upstream actors) offer downstream actors two choices: price P_1 and price $P_{2.}$ The first price, $P_{1,}$ is paid for raw material in the quality range (Q_1 to Q_{P1}) and the second price, $P_{2,}$ is paid for the raw material in quality range (Q_{p1+1} to Q_{P2}). Ideally, each grade of cashew should have a matching price. This means that producers of higher quality should be compensated more for their efforts than downstream actors who produce lower-quality cashew, but this is not the case. A rational producer therefore knows that it does not pay to produce higher-quality cashew as one

ends up being paid the same as those who produce a product of lower quality. This would lead to a reduction in the quality of produce where only those of lower quality (Q_{P1} and Q_{P2}) with matching (lower) prices are produced, i.e. 'lemons'. As far as downstream actors are concerned, there is not much difference between producing a quality product or a lower quality product as they both sell for the same price. Since buyers anticipate low quality, they will tend to offer the lowest possible price. This is a classic Prisoners' Dilemma solution in game theory, where parties choose bad solutions in anticipation of others doing the same (see Figure 5.1).

Figure 5.1 Marketing of cashew as a prisoners' dilemma, Tanzania



Buyers of raw cashew in Tanzania include local processors and exporters. Demand for raw cashew mainly comes from outside Tanzania, with exporters having a significant role to play here. There are few local processors comprising upstream actors so most of the raw cashew produced are bought by foreign exporters to be processed elsewhere. Figure 5.1 illustrates the decisions on quality and price that are likely to be offered by farmers and exporters. The top right-hand entry in Figure 5.4 represents payoffs for exporters and the bottom left-hand entry represents the payoff by farmers.

A farmer has a choice of producing high-quality or low-quality cashew and an exporter can offer a high or low price. So for both the farmer and the exporter, there is a good option of farmers producing high-quality cashew and receiving a high price from the exporter and also a bad option where farmers produce low-quality cashew and receive a low price. But since neither the farmers nor the ex-

porters can tell anything about the price or quality, this would lead to a Prisoners' Dilemma solution in game theory. If both farmer and exporter arrive independently at the worst decision, which is to offer a low price and receive low-quality cashew, this is worse for both rather than aiming for high quality and a high price, which is good for both. This is an equilibrium where the farmer produces low-quality cashew and receives a low price from the exporter. A low price means less money is available for maintenance for the farmer and the cycle continues, leading to further low yield.

Liberalization only counted on market prices to allocate resources and this worked until the end of the 1990s but the collapse in prices in 2000 led to farms being neglected. At the beginning of the season, private traders bought raw cashew at a high price and later in the season for a much lower price. This had repercussions for the quality of the raw cashew produced. Traders used to bargain amongst themselves and the highest bidder received the consignment regardless of its quality (see Box 5.1).

Box 5.1 Trading cashew on the free market in Tanzania

To trade in cashew one had to obtain approval from the Cashewnut Board of Tanzania, and the regional and district business officer for crop shipment. The latter was very bureaucratic and a good relationship was needed to have approval on time.

Additionally, all accredited companies were required to deposit cash for procurement at the primary society and no limit or floor was sanctioned. A detailed roaster with specific buying days was prepared, which remained intact whenever prices were equal. If the price changed, the one with the higher price would be given priority.

Buying was held at the primary societies. Most had strong and trustworthy people so there was little chance of losing money. In cases of theft, the same amount was deducted from the levy to be paid to the village. Before taking the consignment, a cutting test was used to grade the cashew, but again the location and time of buying was important. Trading during the rainy season impacted on the quality of the cashew.

Source: Traders, interview by researcher.

Farmers living in remote areas received lower prices than those close to main centres and middlemen were involved at both the village and regional levels. A farmer selling to a 'higher' middleman was assured a better price than others. Yet again, the situation was bad regarding the provision of farm inputs for all farmers. Traders were only interested in obtaining raw cashew and not in supplying farm inputs. The total withdrawal of the government during liberalization created a vacuum in coordination. This lack of coordination, which farmers felt as a lack of inputs and fluctuating prices, led to state officials announcing that traders were bad for farmers. The former experienced insufficient supply due to a lack of trad-

ers. Worse still, the few big traders started a cartel, thus making it difficult for farmers to benefit. The trading system in Tanzania moved from a cartel to a monopoly in the buying of cashew. In a way, private traders were no different from state boards as they were also parasitic in nature and left the farmer marginalized with residual payments.

To bring back a coordinating role, another radical change was made, with everything related to cashew trading being centralized (monopolized) from the purchasing of produce, to the supplying of jute bags, transport and even the provision of inputs In 2007, coordination picked up with the introduction of the Warehouse Receipt System (WRS) but even with this, Tanzania is locked in a low production equilibrium. The next few pages illustrate how the system was operating in Tanzania during my fieldwork period.

Current marketing of raw cashew in Tanzania

There is a channelled system in Tanzania for buying raw cashew through the Warehouse Receipt System (WRS; see Figure 5.2).[11] In order to sell in the WRS, a farmer must belong to a primary society. Farmers have the option of selling their cashew through the primary society (part of the WRS) or *kangomba* (see Chapter 3). Cashew is categorized visually into A or B grades and different prices are allocated accordingly. In the WRS, farmers use their output as collateral to obtain loans from banks and repay these once their produce has been sold at auction.[12] Producers can thus wait and sell their produce when the market is more favourable.[13] Produce sent to the warehouse is recorded according to quantity and quality and the producer is given a receipt with all the corresponding details. The receipt is transferable and the producer can receive an advance from the bank representing a percentage of the current market value of the produce. The storage facilities at the warehouse are secure and the producer agrees to pay a fee to cover storage costs. Produce at the storage facility still belongs to the producers as they have taken out a loan and their payment will only be channelled through the bank where the initial loan was obtained after the cashew have been sold at auction. The buyer goes to the bank and pays the full amount for the consignment and the bank will then deduct the loan and any associated fees (such as

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[11] The Warehouse Receipts Act No. 10 of 2005, Tanzania Cashewnut Marketing Board Act No. 21 of 1984, Cashewnut Industry Act No. 18 of 2009 and the Cooperative Societies Act No. 20 of 2003.This section on WRS benefited from interviews with the late Benno Mhagama and Mohamed Hanga of CBT; Shamte Shomari of NARI; John B. Henjewele & J.R. Mmuko of Mtwara; Munjai, Michael Kamazima & Gervas J. Mahanga of Tandahimba; and Hassan Dadi Chipyango of TANECU.

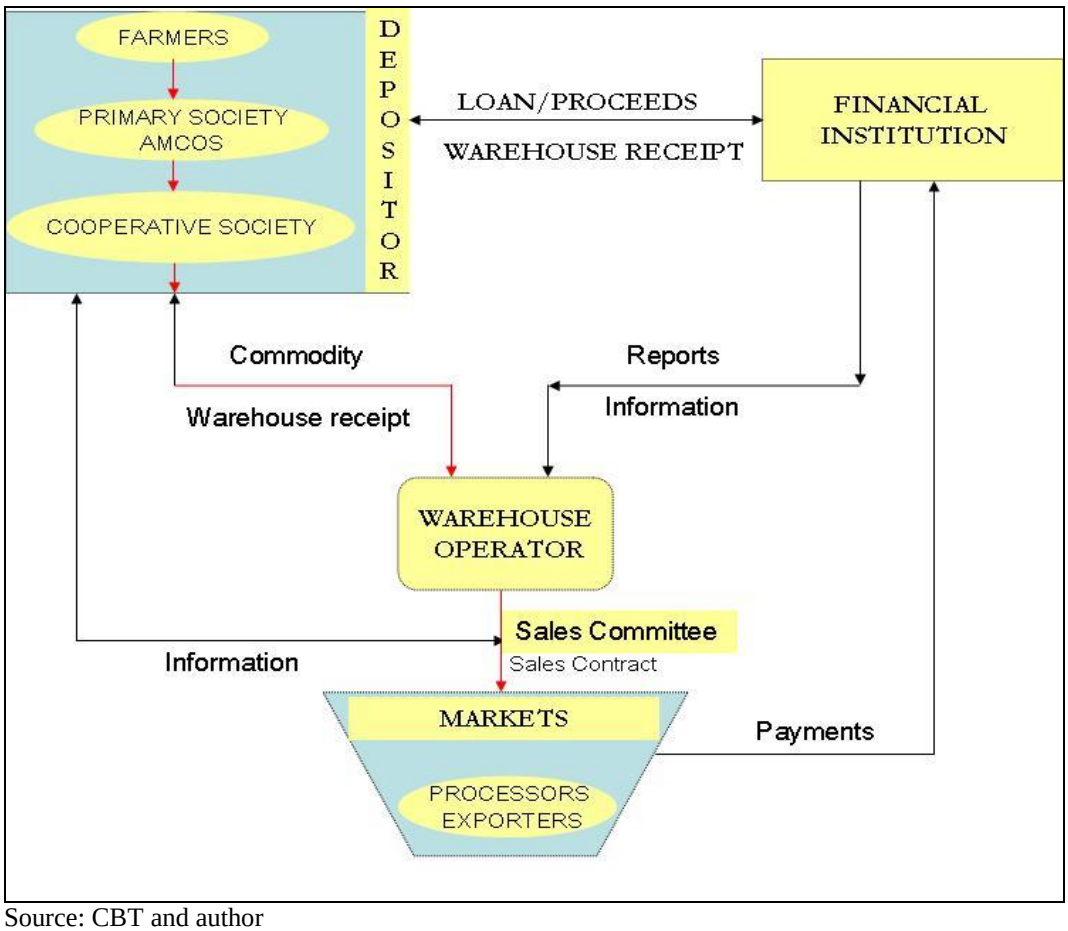
[12] An agreement between depositors and financial institutions has been set with guarantees from the government allowing the depositor to receive a percentage of an indicative price via an overdraft. Once the produce has been sold, the buyer clears this with the bank and the depositor receives the remaining percentage of the price of the cashew sold.

[13] Lacroix *et al*. (1996).

interest) and the producer will be credited with the remaining balance. There is another process in which producers do not take out a loan and receive full payment. This is a new practise in Tanzania. UWAKOTA is one such group.[14] Producers may take out a loan (or not) and pay for storage-related costs and the transportation of goods from their farm to the warehouse.

WRS ensures that farmers receive a constant price throughout the trading season and if the price is high enough, they then receive a bonus as a third payment. Farmers who adopt this system are also assured of receiving subsidized farm inputs (particularly pesticides and fungicides) that are provided through the pri-

Figure 5.2 The Warehouse Receipt System (WRS)



Source: CBT and author

[14] Phone interview with Majogo crop officer, Tandahimba, 2 May 2011; Nipashe online 4 December, 2010. To join such a group, a farmer must be producing at least 3 tonnes of raw cashew per season. The group does not require an overdraft from the bank and pays its members right after the auction after paying the transport costs and taxes. These groups became popular with the falling trust in the primary societies. In 2011/12 season these farmers' groups were banned from trading as they were alleged to auction cashew produce from non-members (Mwananchi, 20 November 2011).

mary society under the District Input Fund. The Cashewnut Board of Tanzania oversees the quality of cashew from the farmers and the warehouse to the buyers.

How the market works

The typical WRS in Tandahimba has been modified, as can be seen in Figure 5.2, allowing the movement of cashew (produce), services (inputs) and money. The arrows in the top left-hand box show how cashew move from the farmer to the primary society and then to the cooperative society before being auctioned off to exporters and processors.[15] At the same time, services are provided by the cooperative society to AMCOS and eventually also to the farmer. These include the provision of inputs, storage bags, maintaining warehouses, money transfers and transporting the cashews. In the right-hand corner of the figure, the movement of money to and from the bank is shown. Initially, the primary societies apply for loans from banks to pay their farmers for their cashew before auction and, once the loans have been approved, the cooperative societies are responsible for assisting the primary societies by supplying them with money whenever necessary.[16] Farmers are paid a proportion of the price indicated. Before the auction, various processes take place in the warehouse area (Photo 5.1). First, the cars from the primary societies (AMCOs) are weighed and a sample is taken for scientific grading to determine the quality of the batch.[17] The cashew are arranged in the order in which they arrived at the warehouse and a CBT quality certification is issued noting the batch's weight and grade. The warehouse officer then produces a receipt for the bank and a copy for the primary society.

At the warehouse where the auction takes place, the cashew sacks are organized by the primary society. A raw cashew sales catalogue with the grades of batches for the different primary societies is provided for the bidders who jot down the prices for a batch and put them in an auction box. The auction is then conducted[18] and the winning (highest) bidder takes the warehouse receipt to the bank to arrange payment. After having paid, the bidder is provided with a permit and a levy for transporting the product, and then returns the original warehouse receipt that he used to pay for the batch at the bank. Given proof of payment

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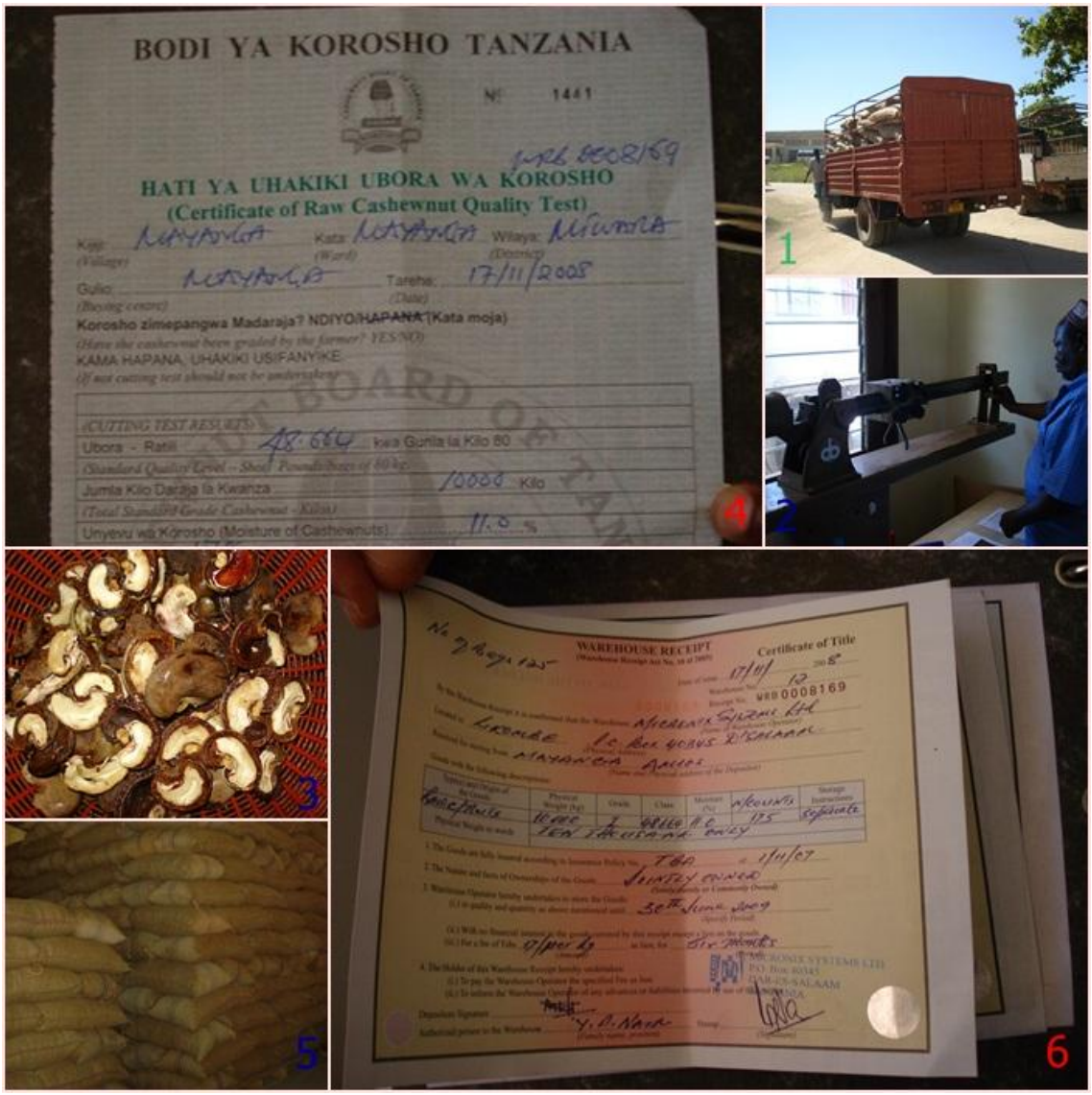
15 Cashews received from farmers are sorted either by grade or by standard grade. Initial grading is done by looking at the size and colour of the cashew.

16 The banks do not supply the whole loan at once but whenever it is asked for. The maximum loan is applied for prior to the start of the season and is benchmarked by output from the previous year and the price indicated by the government.

17 Cutting tests and moisture checks are done, and the CBT provides a quality certificate.

18 Representatives from the primary society and the cooperative society are present at all times during testing at the warehouse and at auctions. Representatives from the Ministry of Industry, Trade and Marketing and the warehouse manager are also present during the auction. Bidders must have certificates from the Cashewnut Board of Tanzania.

Photo 5.1 Procedures undertaken at the warehouse before auction



1. Vehicle with raw cashew arrives at the warehouse. 2. Weighing of cars (inside or outside the warehouse). 3. Samples are taken for a quality test. 4. A certificate for a quality test is provided. 5. Cashew is organized in accordance with the origin of their primary society. 6. A warehouse receipt is issued.

from the bank, the warehouse manager provides the winning bidder with a release warrant. Bids must be high enough to cover any unforeseen additional costs associated with production. If they are too low, the auction is suspended and there is no winner. The minimum bid allowed is for 50 tonnes. After the auction, farmers receive a second payment that covers the full price indicated and if it is high enough, a third payment in terms of a bonus is also provided.

For the system to work, two conditions must be satisfied.[19] First, there have to be multiple bidders and, second, it is important that any other marketing costs are treated with total confidentiality. If the first and the second conditions are not met, bidders would bid the lowest amount just to cover the costs. The first condition ensures competition among bidders (traders) while the second one guarantees that (most) farmers receive a good price. Failure to meet these two conditions would mean that farmers would only receive the price indicated without any bonus.

The call for all farmers to belong to farmers' groups, in particular primary societies, is aimed at coordinating activities related to production. The case made for primary societies is set sequentially, following the order in which production occurs.

Firstly, the primary society tackles the problem of supplying inputs, which are important for pest and disease control. Cashew in Tanzania is a disease-prone crop and farmers need assurance regarding the delivery of inputs. As a result of the non-supply response that occurred after the liberalization of the cashew trade in the 1990s, the government came up with a solution for providing farmers with inputs as private traders were not interested in supplying them. A centralized system, the District Input Fund, was thus set up in 1993 to resolve the problem of farmers in the primary society not being provided with inputs.

Secondly, primary societies assist in distributing knowledge from research institutes. Selected representatives attend courses organized by the Department of Agriculture, the Cashew Development Centres (CDC) or the Naliendelee Agriculture Research Institute (NARI) where they learn innovative ways of increasing productivity.[20] These include grafting, top work, gap filling and disease-fighting techniques like sanitation, thinning and pruning. Trained representatives are joined by community-based extension officers (CBET) who use the T & V (Training and Visit) system to provide services to cashew farmers. In addition, to curb the problem of travelling long distances with seedlings, community nursery groups, like the Jikwamue Group in Malopokelo village, have emerged. Members are also trained in how to maintain their warehouses and grade cashew from farmers.

Thirdly, primary societies assist in finding cashew markets for their members. The elected leaders of the society represent members in different farming activities at the local, ward, district and regional levels. The leaders, and at times society members too, are trained by cooperative officers on how to run their society.

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[19] The price announced to the farmers is given in relation to the expected C&F price in India per tonne and costs incurred in Tanzania. The estimated cost of transporting cashew to India, including shipping and handling, is computed. This includes administrative and marketing costs, the costs of funding and those of purchasing the cashew.

[20] Interview with Yahya Salum Mahinyo, CDC Nanhyanga, 19 December 2008.

These activities include giving information on bank accounts (how to open an account, write cheques and signatories), book keeping and the keeping of records of members and the sales and payments of their goods (cashews) and ensuring that members receive inputs according to the output harvested in the previous season. Gaining access to markets requires access to credit and farmers are paid part of their earnings before an auction.

Although the primary societies were established for the reasons stated above, there are registered shortcomings in the operation of a system that integrates the primary society with the wider trading of cashew output and inputs. Cooperative unions oversee these primary societies. With the WRS, the Cooperatives Union monitors the distribution of jute sacks and money to and from farmers. The case to be made for cooperative unions is set out sequentially below according to the order in which production occurs.

Firstly, the cooperative society assists in the coordination of cashew trading. To retain freshness, cashew is transported in jute bags and the cooperative selects the supplier and distributes jute bags to the primary society.

Secondly, the cooperative society offers a secure means of transporting money for the primary society. Farmers take their produce to primary societies and get paid part of the price indicated because the harvesting season is long and the primary societies cannot be expected to have all the money required for an entire season. The cooperative union steps in and assists in distributing the money from banks too when this is required. In a single season, some primary societies might need five tranches of money.

Thirdly, the cooperative society acts as quality check when transporting cashew from primary societies to regional warehouses where the auctions take place. The cooperative union helps the primary society in selecting the trucks to transport the cashew.

Both the primary society and the cooperative union represent the interests of the farmers. Since the cashew stock still belongs to the farmers until the auction,[21] the primary society and the cooperative society both work for the farmers. Inasmuch as it is good that marketing is being centralized to protect farmers, they still need more say in the matter, especially on issues such as jute bags, shrinkage and transportation. There needs to be more competitive suppliers of jute bags and transport. Primary societies should be better educated about managing their finances. During fieldwork, it was hard to sense when all the parties were participating fully. There appeared to be a misconnection between the farmers and the programmes being implemented. Cooperatives unions had the upper hand but provided little room for flexibility regarding the participation of farmers in the

[21] The stock that is in their warehouses is used as collateral for their loans.

whole process. Technicians and other stakeholders need to work together at all stages with the farmers.

The FOB prices of raw cashew ranged from US$ 745 to US$ 900 per metric tonne in April 2010.[22] The indicative price per kg was TSh 800 for the 2010/11 season, with the price received by farmers at the farm gate being a record at between TSh 1501 and TSh 2182 (equivalent to US$ 1.15 and US$ 1.67) (CBT 2010).[23] At the time of fieldwork during the 2008/09 season, the expected price was TSh 675 and the farm-gate price ranged from TSh 700 to TSh 990 (*Ibid*.). This was at the time of the financial crisis and during a period of insufficient rain (*likaba*) which resulted in trees having problems producing fruit. The WRS protected farmers during the financial crisis even though prices were low (Kilama 2010).

Apart from the primary society and the cooperative society, the Cashew Nut Board and the Naliendelee Agriculture Research Institute are crucial stakeholders that assist in the production and marketing of raw cashew in Tanzania. The CBT deals with coordination while the NARI handles innovation and new technology.

Both the CBT and the NARI are facing a number of challenges (see Box 5.2).In interviews, stakeholders commented on the fact that their challenges in improving the cashew industry seem to limit their suggestions and solutions to the particular department they are involved in. The cashew sector would benefit from better coordination if sectoral approaches were adopted and the existence of departmental challenges was acknowledged. The CBT would also benefit from a holistic approach that not only incorporated farmers and research institutions but also processors, who are important stakeholders in the cashew industry. For example, when cashew trees were suddenly attacked by powdery mildew disease (PMD), the research institutions discovered the clones that were resistant to PMD and drought. And when farmers complained about markets for their goods, the WRS was introduced to assist them in production. In addition, taxes were banned to provide incentives for farmers to increase production. As for the processors, the export levy on kernels was abolished in 2005 although the export levy on raw cashew still exists to promote competition locally. One can see that farmers and research institutes have received incentives to encourage production by lowering production costs while the costs for processors remain the same.

For the cashew industry, price and non-price incentives are important determinants of supply. In Tanzania in particular, attention is given to price incentives and little is given to non-price incentives, as price-incentive reforms are easier to implement than non-price incentives. These non-price incentives tend to be struc-

[22] www.CashewInfo.com April 2010.
[23] See Table 5A1 in the Appendix for the prices received in other seasons.

Box 5.2 Challenges faced by the cashew support system in Tanzania

The Naliendele Agriculture and Research Institute (NARI) faces a number of challenges.

- The government adoption of SAP led to a hiring freeze from the 1990s onwards, which has created an institutional gap that is proving hard to fill. The NARI is faced with an aging workforce and a number of workers with more than 20 years of experience are on the point of retiring. This will result in a loss of institutional memory and no experienced personnel to take over.
- There have been cuts in current budget support to NARI. This has led to the dismissal of more than 60 workers, making it hard to conduct research, and a reduction in working inputs, bearing in mind that all the different stages of growth of cashew need different management and researching each stage of a tree crop takes longer.

The Cashewnut Board of Tanzania (CBT) emphasizes improved efficiency and effectiveness in the cashew sub-sector for different stakeholders. The CBT's main challenge is understaffing coupled with little budget, and it thus often operates only partially due to a lack of tools and machines. This has led to the organization concentrating on day-to-day activities like solving marketing problems. The CBT has had to police cross-border trading since the introduction of the WRS and this has taken resources away from their main task of coming up with strategic decisions to allow for the efficient and effective operation of the cashew sector. The CBT also faces difficulties in tracing goods.

Source: Visits to NARI and CBT in Mtwara, interviews with Dr Shomari, Dr Sijaona, Dr Kasuga and Dr Massawe. Also with the late Mr Mhagama, Mr Simuli and Mr Hanga. Interviews and observations by the researcher as well.

tural constraints like bad roads and lack of access to credit. For the cashew sector to flourish, both price and non-price incentives are required. From 1991 to 2007 this was not the case although some adjustments had been made by 2007 to cater for non-price incentives like the monopsony of traders although some non-price incentives still remain. For instance, since 2007 the introduction and utilization of the WRS has aimed to provide farmers with predictable markets with better and stable prices for their produce.

With limited processing capacity, traders (local processors and exporters) are left to fend for themselves and, ideally, the cashew support system will focus on the farmer. This is barely being achieved in a coordinated manner and in a way that could improve the whole sector, including researchers, processors and desk officers. With such a set-up, low productivity is being reinforced due to farmers' passivity and lack of alternatives for income generation. On the whole, low production by farmers results in less cash/revenue being available for inputs, maintenance and other long-term investments. On the other hand, this generates unpredictable and more expensive raw materials that are required by processing plants.

The WRS was started to protect farmers but has unintentionally ended up hurting them because of not fully rewarding the personal effort involved as too much is being left to chance. For instance, there is a disputed double grading system in

Tanzania; with visual grading at the primary society and scientific grading taking place at the warehouse. Since all the batches from the same primary society are put together, a farmer's final price is influenced by what others bring in. This approach is not fair on farmers or on buyers (processors/exporters) as the batch may be under-graded or over-graded. The combining of cashew from the same primary society at the warehouse introduces the generalized free-rider problem. In such a way, members belonging to the same primary society want to produce just the acceptable quality so that members of the primary society will offer the highest price. And once the cashew is taken to the warehouse for auction, the sample drawn would influence the pay-out of all members of a particular primary society. The unreliability of the quality for bidders and of prices for farmers increases the room for divergence and mistrust among farmers. This kind of a gamble encourages unsupervised negotiations because of a gap in information, i.e. asymmetric information. There is no guarantee for farmers that the cashew of highest quality will receive the highest price.

Even with the WRS, the cashew sector in Tanzania is reminiscent of the Prisoners' Dilemma, where quality remains under-graded and the sector operates in a low equilibrium. This implies that the current set-up of the WRS[24] in Tanzania would improve significantly by allowing the creation of pressure groups to ensure on time delivery of inputs and services and if there was more cooperation between farmers and WRS officials.

The WRS approach favours farmers as the government offers assistance by providing inputs and marketing. Such procedural coordination goes up as far as the auctioning process where the excluded traders and processors are left to fend for themselves. The presence of a majority of traders in comparison with a handful of local processors at an auction implies that the assistance provided to farmers favours other processing industries elsewhere and suggests a significant presence of negative externalities. Having considered the marketing of raw cashew, the next section covers the marketing of kernels and inputs.

Marketing kernels in Tanzania

In addition to trading raw cashews, kernels are also traded although at a lower level. According to the Cashewnut Board of Tanzania (2010),[25] 15,000 metric tonnes of kernels were exported in the 2008/09 season, which is less than 25% of the country's raw cashew production. There are two types of processors of

[24] The marketing of raw cashew in Tanzania exhibits characteristics of spot contracting. The WRS and farmers through their respective primary societies do not sign contracts although there is an implicit contract whereby selling through the WRS means that farmers are paid an indicative (± bonus) and provided with subsidized inputs. They have therefore already made investments and so are vulnerable and have to face the catch-up game of waiting. This is the hold-up problem.

[25] See also Table 3A1 in the Appendix.

cashew in Tanzania: small-scale and large-scale processors. Some of the smaller ones are organized in a group like the KIMWODEA Association in Newala or processing simply takes place at the producer's home. For small-scale processors, additional investment is unpredictable as it depends on the good will of people and government. By utilizing their own networks and the personal efforts of group members, KIMWODEA has managed to establish a processing facility.

Photo 5.2 KIMWODEA's new processing facility in Kitangari, Newala, Mtwara

Small processors are self-initiated groups with affiliations as a result of being related to or living in the same neighbourhood. Small processors depend on urban centres around the country for their main markets. As can be seen in Photo 5.3, the processors simply perform their tasks in the shade of a tree, where the boiled raw cashew are cracked open using ash, a heavy cloth, a pipe as a hammer and a flat nail to protect their fingers. A small curved knife is used for peeling off the testa from the kernel. The quality standards required for exports are too high so small-scale processors resort to selling at local markets. The need to earn extra income initiated the formation of these groups. In 2008 prices received for a kg of kernel range from TSh 8,000 to TSh 17,500 (IS$ 6 to IS$ 13).

Photo 5.3 Small-scale (local) processing

1. Boiled and dried cashew. 2, 3 & 4 shelling nuts. 5 & 6 peeling off the testa.

Large-scale processing includes processors with a more predictable formal channel of funding who have a plant and hire workers to operate it. Box 5.3 highlights the differences between small-scale and large-scale processors. Bigger processors operate differently (see Box 5.4**)** and use manual and mechanical processing. The majority of the labour force in these firms are women.

Kernels produced by large processors are exported mainly to the US, Europe, Japan, Korea, South Africa and the Middle East although some are consumed locally. Large processors in Tanzania adhere to world standards regarding quality because any registered drop in quality is punishable by a negotiated reduction in price. The price falls steeply with every drop in standard. For example, Whole Whites fetch the highest price, W320 was selling for US$ 6283 and W240 for US$ 6724 in April 2010, while SW 320 had experienced a 14% reduction in price compared to the W320 (see Chapter 2). Interviews with processors confirm that none of their consignment had ever been rejected but when there is a perceived lower grade, the price initially agreed on is negotiated downwards.

Box 5.3 KIMWODEA, a small processor operating in Tanzania

KIMWODEA (Kitangari Mivinje Women's Development Association) started operations in 1996 with 15 founding members. Today the group has 40 members, half of whom are aged between 30 and 40. The association started with a restaurant and weaving business and then 8 of the members were sponsored by the district office to attend a cashew-processing course in Mbinga about 500 km from Newala. When they returned, some members gave up and others started cashew processing seriously, with Mtwara town as their main market. One kg of processed cashew fetched TSh 10,000. As demand increased, the group needed to produce more.

It operates in groups of five, with each doing similar work but before the cashew are divided among the members, the raw cashew are boiled and then dried in the sun. Each member is given a 20-litre bucket of raw cashew to shell and peel and then prepare for roasting in large covered pots for varying lengths of time. After the cashew has cooled, grading follows and the whites and slightly brown ones are separated. The cashews come in different sizes: large, medium and small. The group prefers processing large cashews as they fetch a higher price. Kernels are packaged in 1.5 kg plastic bags that are then ready to be sold. The group regularly participates in agricultural exhibitions in Mtwara and Dodoma.

The biggest challenge facing the group is access to credit that would allow them to buy machines and tools. The CBT assisted the group in making bags with logos on them but it is crucial that small processors are linked with reliable tools and machines, such as machines that add gas while packaging. The president of the association laments the fact that if the group uses any other bags, the kernels start sticking to each other within a month. Using the correct packaging prevents this and the kernels can then remain fresh for up to six months.

Source: KIMWODEA Chairlady-Newala small-scale processing, interview by researcher.

Box 5.4 Formal processors' operations in Tanzania

Processing enterprises started from trading or were previously government owned. Manual processing is common but mechanical processing is also used. Labour (or fuel in the case of mechanical processing) and power are the main costs involved in the production of raw cashews. Local women make up most of the work force and are in charge of shelling, peeling and grading. Machines used for cutting usually come from India, Vietnam or Italy although a few locally made spare parts and packaging materials are now available.

The processors face several expensive challenges. First, they have to compete with exporters to buy cashew at auction. Second, they have to store the raw cashew for a whole year. Coupled with this is the inconsistency in the quality of the raw cashew. And last but not least, poor infrastructure, in terms of roads, disruptions to power and water supplies, are major problems. Of all these issues though, the lack of affordable credit is the biggest challenge.

Source: Visits to PCI, BUCO and OLAM processing plants in Dar es Salaam and Mtwara. Interview and observations by the researcher.

The processing industry in the cashew sector in Tanzania was set up to utilize excess raw cashew, a forward linkage. In early 1970s where production of raw cashew was increasing, the World Bank assisted Tanzania in installing processing capacity as seen in Chapter 3. Creating capacity in Tanzania has remained a challenge due to stiff competition from more developed processors in India that

are able to offer a better price than local processors.[26] This implies that, to have a flourishing cashew industry in Tanzania, a strategy for competing with the Indians is needed (Chapter 3). The availability of credit is a constant demand from processors who find raw cashew more expensive given the competition from foreign traders and the additional transactional costs incurred by the WRS. Since local processors are competing with foreign traders to obtain raw cashew, it has become costly to store a year's stock.

There is a weak link between farmers, traders and processors which leads to an unbalanced value chain. Upstream actors are very strong both in terms of power and money and thus operate in a captive manner. The sector operates inefficiently as each actor has their own role to play without necessarily complementing the performance of the whole sector. As indicated earlier, this type of set-up means that domestic processors lose out to foreign processors, and so ultimately does the whole sector.

Marketing of inputs in Tanzania

As far as the marketing of inputs is concerned, the inputs required for cashew production include seedlings, fertilizer, pesticides and tools. In a disease-ridden area, pesticides and fungicide are crucial. As seen earlier, the need for pesticides and PMD-resistant seedlings occurred after the long-term neglect of farms. Furthermore, during liberalization, there was not enough supply response created in Tanzania and traders became more interested in buying raw cashew and less interested in supplying pesticides and fungicides. Due to the limited supplies of inputs over the years, the government intervened and started the District Input Fund in 1993. The current monopoly of input supply through the fund emerged as a solution to the lack of sufficient traders. There are several traders who sell inputs through registered shops in the district or at small kiosks in village centres. The latter, though considered illegal and labelled *walanguzi*, assist small farmers who cannot sell their limited harvests through the WRS. *Walanguzi* also sell inputs from Tanzania and Mozambique.

Regarding the utilization of new methods, an agronomist from NARI observed that only '50% of the innovations developed reach cashew farmers in Tanzania'.[27] The Cashew Development Centres (CDCs) were developed through the integrated cashew management programme to improve communication with farmers who still go to the CDC when they encounter problems. There have been observed improvements but challenges still remain in reaching farmers with new varieties.

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[26] This is made possible by strategies set up by their government that banned exports of raw cashew and rewards the importation of raw cashew.

[27] Interview with Dr Louis Kasuga, 17 November 2008.

Concluding remarks

This section on marketing in Tanzania has shown that raw cashew and inputs are centrally traded, while kernels are traded under free market conditions both locally and on foreign markets. There is free trading in cashew and inputs through *kangomba* and *walanguzi* but these practices are considered illegal although they are still widely used.

This chapter also discussed the current operation of the WRS and the different challenges facing the system. It is important to note there have been many radical policy reversals in Tanzania. Whether centralization, private traders or re-centralization, these reversals have led to destabilization and the peasant has always been side-lined. The set-up has allowed for temporary bursts, erratic trends in production and low yields as seen in earlier chapters. These radical changes in policies have affected the institutional set-up of the sector. A common feature that is observed regardless of the policies is that the peasant is treated as being on the margins. Farmers have little room to manoeuvre because of the predetermined use of land and the residual payments received that aggravate their situation. In Tanzania, land belongs to the state, as does the decision to grow crops. This allocation of crops started when Tanzania (then Tanganyika) was under German rule and plantations were established in order to have strategic raw materials to satisfy demand and prevent being dependent on the US.[28] Though the Germans started with cotton, sisal, rubber and gold as strategic exports, other goods were also produced.[29] Peasants continue to use the land in accordance with directions provided by the state, a practice that started during colonialism and was never abandoned by the government after independence. The fact that the state regulates the use of land[30] provides limited freedom for peasants. This and earlier work[31] in Tanzania show that when fixed costs per unit go up, the farmer bears most of the burden. In addition, controlling rising mark-up costs[32] by prohibiting peasants from doing what they please is a challenge. Farmers are left with little flexibility and abandon or only hastily tend their farms when prices collapse. Quality then suffers as farmers receive lower-than-anticipated prices as payment only occurs after all the associated marketing costs have been deducted by the trading coordinators. With residual payments, an increase in price does not translate directly into an increase in the quality of the output produced but instead enhances the production of lemons. The power to defend their interests is taken

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28 Rweyemamu (1973: 15).

29 Rweyemamu (1973: 15, Table 1.3). This went hand in hand with the appropriation of prime land for Europeans settlers and non-strategic cash crops, such as sisal, cotton and rubber, were allowed to be traded by Africans. In the south, there were retaliations like the Maji Maji War of 1905-1907 that led to less intervention by European rulers.

30 Shivji (1998).

31 Ellis (1979) and Westergaard (1968c).

32 The evidence is presented in Table 3A3 in Appendix III.

away from the farmers, leaving them passive and with little motivation to increase productivity through new innovations as everything presented is prepackaged. As farmers in Tanzania earn most of their income from cashew, there is little flexibility with regards to choice in years of a bad harvest or low prices. There are campaigns urging farmers to tend their trees as required and not to cut trees down. Big farmers have resorted in finding their own marketing solutions within the existing system. A genuine concern is the current trend of having big farmers forming their own associations like UWAKOTA, UWAKONE and WAKOMA with the implication that transaction costs by the likes of the WRS for those not in such groups will increase tremendously and defeat the reason for setting up the system originally. Having the big farmers using WRS for auctions alone threatens the existence of the system as a whole because running the WRS with small farmers alone will definitely fail. Large-scale farmers can afford to wait for the trading season to buy any required inputs and to operate their businesses. For instance, big farmers like UWAKOTA[33] have opted out of taking loans from a bank, which demonstrates the huge differentiation among farmers in Tanzania as small-scale farmers do not have power to defend their own interests. By implication, the observed rises and falls in production are mainly due to the changes encountered by the big farmers and not the smaller-scale farmers.

With already limited flexibility, this situation has worsened given the fact that the anti-poverty programmes are geared more towards social sectors and not the productive sectors. For instance, the first Poverty Reduction Strategy Paper (PRSP) completed ignored agriculture and concentrated on social sectors like education and health, rural roads and macro-economic stabilization.[34] Micro-level interventions were not considered. Unfortunately, increasing output and productivity are becoming a challenge as peasants are limited regarding credit for inputs.

This section has shown that policy adaption in Tanzania is aimed at improving the peasantry in isolation and not the sector as a whole Using contrasting economic history, this chapter has shown that a pure market with no state involvement implies no research or extension will be provided. The state is a contradictory phenomenon. Cooksey (2003) argued that partial liberalization was a hindrance to expanding production and a nuisance to farmers in Tanzania. Prices would allocate resources provided that there is formal coordination to overcome inefficiency. The case of Tanzania shows a vicious cycle where quality is vital but little or no effort is made to maintain it. During the multi-tiered system, quality was checked but then raw cashew were mixed with all the stock from mem-

[33] There is a stronger differentiation among farmers in Tanzania. UWAKOTA and similar organizations find solutions with regards to marketing for farmers.

[34] URT (2000).

bers of the same primary society regardless of the efforts put in by an individual peasant. Accumulation that would lead to poverty reduction or eradication thus becomes the main challenge. And again, there is a challenge in the processing sector which has seemed to be considered an outsider with little support.

Vietnam

After seeing how cashew marketing operates in Tanzania, the next section discusses the proposition that an industrial strategy has reinforced performance in Vietnam. Market coordination is not necessarily the dominance of the state or the market but rather the complementarities that need to be undertaken to ensure the improved performance of a sector as a whole. Government intervention may lead to expansion associated with or the contraction of the sector. As seen in Chapter 3, the cashew sector in Vietnam has experienced two kinds of marketing. Before *Doi Moi* in 1986, there were cooperatives and now there are private traders who are the main buyers of raw cashew from farmers. The two kinds of marketing have treated the farmer differently, with the former a farmer was paid by residual payment with limited flexibility and the latter is as a core with more flexibility.

Adaptive efficiency in marketing cashew in Vietnam

Coordinating the cashew sector in Vietnam has been solved by adaptive efficiency[35] strategies that seem to be able to adjust to the changing environment and incentives. Strategic policy allows room for innovation, adaptation and efficiency in Vietnam. By encouraging the involvement of (many) other stakeholders, this leads to efficiency. With numerous players at all levels, the system keeps itself in check and everyone benefits. There are many traders for inputs and output. Production in Vietnam is on a large scale so the flourishing processing industry, with a turnover of over US$ 1 billion annually keeps both the government and the processors on their toes.

One of the main strategies undertaken was to have the country's industrial policy backed by a poverty programme. Anti-poverty programmes in Vietnam are linked to the productive sectors and for the cashew sector there is processor-led development. The policy considered setting up processing capacity first, then creating production by using imports and finally accessing raw materials domestically through backward linkage. Adaptive flexibility within the strategic boundaries became more effective in organizing the market. Research on processing has been undertaken since the early 1980s, with the hand-and-leg shelling machine being most popular in processing plants in Vietnam. This has created

[35] North (1998: 88). Adaptive efficiency is key to long-term growth. The more an organization allows for trial and error coordinating and leveraging resources, the greater the potential productivity will be of any given set of resources and the attendant prospects of successful action (Penrose 1959).

employment for young men and women in factories. To increase production of raw cashew, as seen in Chapters 3 and 4, mainly poor farmers from the North were provided with land and credit to cultivate raw cashew in the South. This generated further employment. With limited land in the north, landless farmers were encouraged to migrate to the South. A processor in Dak O detailed how the people from the North have been accommodated:

> Before having cashew, *stieng* (minority people) were very poor. Some workers in my company are *stieng* people. They are now cashew workers instead of picking Nhip leaves and digging bulbs of bamboo trees. Actually, they have to take care of their gardens (during) the harvest season (this affects the supply of labour at my company). Once cashew is sold, we shell them thus *stieng* need not go to forest to pick Nhip leaves and dig bulbs any more (...) Every hamlet has a small factory for *stieng*. When they are better, I will have a skillful team. There are many *stieng* people in my locale; (unfortunately) no one has trained them. [36]

This lead to a more equal land allocation utilizing land-saving techniques, while the engine-powered machines shown in Chapter 4 have led to increased productivity and yield in the sector. Actors, i.e. farmers, traders and processors, have a strong linkage and operate in a balanced value chain. Traders have mainly been employed by processors and play a mediating role between the farmer and the processor. This requires good coordination.

All actors in the sector face hold-up problems. With Vietnam putting processing capacity at the centre of its cashew sector, this implies that processors are more vulnerable. Initial processing was made possible by importing raw cashew and having a domestic supply. There are many local traders and processors (upstream actors) in Vietnam, and enough to provide competition in the domestic and foreign raw cashew market. Easy means of communication have made competition stiffer among traders than in previous years. 'Yes, in the past, it was convenient for trading because traders had not appeared much. five years ago, prices were almost stable; I made sure I did not incur losses. Then, traders didn't have cell phones so they couldn't contact each other quickly like now. Traders decide by themselves about the price of cashew nuts to offer.'[37] This is how it happens. A farmer who produces cashew can receive either a high or low price and if he receives a high price, he can decide whether to take action or not. The same applies if a farmer receives a lower price. Farmers' actions range from continuing to produce cashew to switching to an alternative crop or neglecting or abandoning their farms, which are forms of inaction. In Vietnam, both farmers and processors invest in cashew, just like their Tanzanian counterparts, and so encounter a hold-up problem. Figure 5.3 illustrates how the Vietnamese cashew market operates. For simplicity's sake, it is assumed that there are only two types of players: a farmer (F) and a processor (P).

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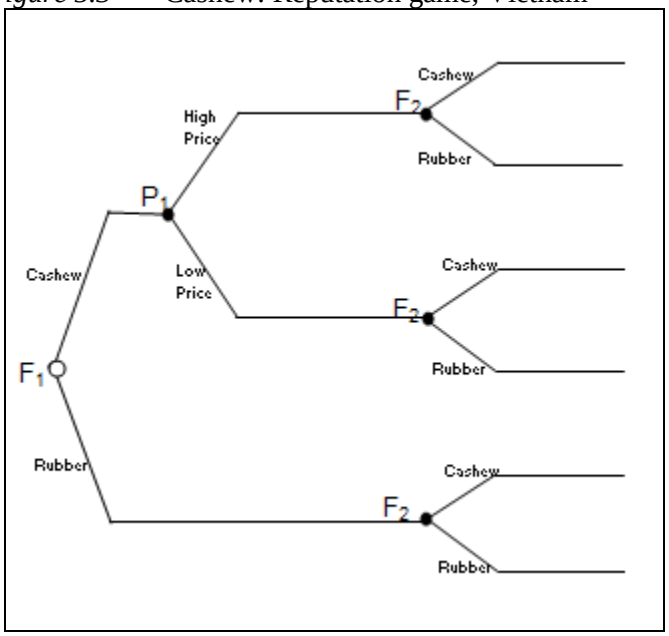
[36] Interview with a trader from Thuong Hoai, 29 January 2010.
[37] Interview with a trader from Thuong Hoai, 29 January 2010.

Figure 5.3 Cashew: Reputation game, Vietnam



A farmer has a choice of producing either cashew or rubber and a processor can pay a high price or a low price for any cashew produced. In this sequential game, the subscript (n) shows the season. Thus F_n means a move by farmer in season (n) while F_{n+1} means, a move by farmer in season (n+1).

The first move is made by the farmer (F_1) who decides to produce cashew or rubber. The second move is made by the processor (P_1) who can offer a high price or a low price for the cashew produced by the farmer (F_1). However, no offer is made by processor (P_1) if the farmer produces rubber. The third move in the second season is made by the farmer (F_2) who has the option of producing cashew or rubber, informed by the prior action in the first season (known knowledge) of the processor (P_1). If the processor provided a high price in the first season, the farmer (F_2) in the second season has the option of producing cashew or rubber. And if a processor provided a low price in the first season, the farmer (F_2) in the second season still has the option of producing cashew or rubber. And thirdly, even if the farmer (F_1) in the first season opted for rubber, the farmer (F_2) in the second season still has the option of producing either cashew or rubber.

As this is an infinite game, farmers in seasons {1, 2, 3 ... n} will produce cashew if, and only if, cashew offer a relatively higher profitability than rubber. In this reputation game, the processor wants the farmer to produce cashew and for this to happen, the processor has to pay a high price to entice the farmer to continue producing. Otherwise the farmer will take an alternative action and switch to rubber production if processors do not pay enough for raw cashew. This solution offers a high equilibrium because both the processor and the farmer

know that this interaction is endless and so the processors would have to continue to offer a high price.

Increases in processing capacity and domestic production in Vietnam have meant that the sector has flourished, with processors preferring local raw cashew. A processor in Dak O reported her buying preference as follows: 'In my locale, cashew not only has a good quality but also fetches a high price. They're always more expensive than cashew nuts from Phuoc Long by about VND 1000 per kg (difference). Because of their good quality, I don't want to buy from any other place. Cashew trees in my locale have the highest quality within the Binh Phuoc Province.'[38] Producers, i.e. upstream actors, offer a good price to encourage domestic raw cashew production. Farmers in Vietnam often choose to uproot their cashew trees following a period of low prices. For instance, the global fall in the price of raw cashew in 2000 affected farmers in both Tanzania and Vietnam but they reacted differently. Farmers in Tanzania continued to produce cashew following a season of high prices and started to neglect their farms after being paid a low price. Farmers in Vietnam continued to produce cashew following a season of high prices and switched to other crops after a season of low prices. Box 5.5 shows the important flexibility provided by rubber and pepper in Vietnam.

Box 5.5 Rubber and pepper

Switching is made possible by accumulated savings from cashew and pepper. When farmers switch crops, they lose their cashew trees but can use some of the same tools if they change to rubber. The first harvest from rubber comes only in the fifth year. Farmers' preference for rubber is due to the fact that it can be harvested every other day for nine months, unlike cashew that is harvested only once a year. Maintaining rubber and pepper is more costly. A rubber tree gives about 0.5 litre of rubber and a hectare will have about 500 trees. A hectare of pepper has between 1100 and 1200 plants and about 6000 kg can be harvested in total from each ha. One kg of rubber sells for VND 16,000 while one kg of pepper goes for VND 195,000.

Mr Duy has five people in his household and they have 10 ha of land: 3 ha are under rubber, 3 are under cashew, 3 more are under pepper and the other has fruit trees on it. The household earns VND 400 million annually from their 3 ha of rubber and make a monthly profit from pepper of about VND 70 m. Income from cashew reduces poverty but rubber can make the same farmers rich.

Source: Mr Duy of Duc Lap. Interview by Hai, Hoa, and the researcher.

The switch between cashew and rubber is not a simple one. Even with the limitations of sunk costs, the cost of foregone income is spread over a period when uprooting is undertaken in stages and producers can fall back on pepper

[38] Interview with a processor, Nguyen Thi Tho of Minh Tho Private Company, 29 January 2010.

Photo 5.4 Rubber and pepper

and their savings. This switch suggests a lower elasticity. Graphs 5A3, 5A4 and 5A5 show that the production of rubber is not only a recent phenomenon but picked up around the year 2000 and has been steadily increasing ever since. This flexibility is shown in Box 5.5 and allows for a more balanced value chain. When prices collapse, farmers have a flexibility to switch step by step to rubber backed by pepper. The choice provided by alternative crops means that farmers do not need to be as badly affected by the hold-up problem. In a sense, peasants are counter-balancing poverty programmes and ownership value.

In Vietnam, the processor-led development of cashew was made possible by the presence of an effective industrial strategy. The cashew sector integrates all actors and, being inclusive, it operates as an out-grower system with coordination overseen by VINACAS. The next section illustrates how farmers and processors interact.

The smaller traders offer lower prices and collect the produce from the farms, while the bigger traders offer better prices but the farmers have to take their produce to them. 'I buy cashew from farmers in our hamlet, in Dak O (ward). If cashew nuts are still raw, farmers will bring them to me, otherwise, I will go to their house. If it's over 5 (or) 10 tonnes, I will hire a tractor to do that.'[39]

When looking at the cashew value chain in Vietnam, four main actors can be identified: farmers, traders, processors and exporters. Farmers sell their cashew to traders who then sell them on to processors. Some of these processors main-

[39] Interview with a trader from Thuong Hoai, 29 January 2010.

Photo 5.5 A farmer taking raw cashew to a trading centre in Binh Phuoc

tain a special relationship with the traders by either hiring them or offering them credit. Differentiation in the prices offered to farmers depends on whether they sell dried cashew or normal raw cashew. Dried cashew fetches a higher price. No further grading is done and all the cashew bought are paid for in full. 'I don't grade. Minh Tho company (a processor) grade by machine, rank A, B, C'.[40] This is different from in Tanzania where there is a price differentiation by grade.

How the market works

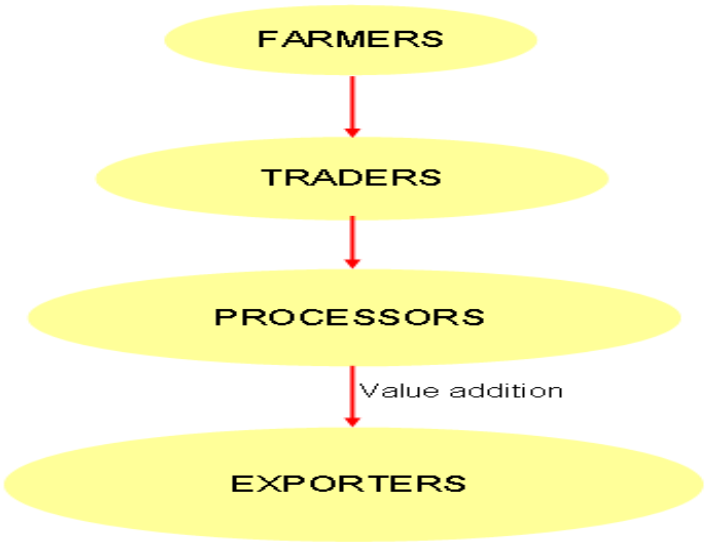
Trading on Bugimap follows the value chain indicated in Figure 5.4, where there are many players at all stages. Small-scale traders either visit farmers at home or on their farms to buy cashew. Alternatively, farmers will take their (sometimes dried) produce to traders at the village centre where the cashew is weighed and the farmers are paid in cash. Raw cashew is sold for VND 17,000 and dry cashew for VND 19,000.[41]

Farmers work in groups. For instance, Tien Hung, a farmers' association follows the Syngenta[42] model that allows them to earn more from the increased pro-

[40] Interview with a trader from Thuong Hoai, 29 January 2010.
[41] Interview with a trader from Thuong Hoai, 29 January 2010.
[42] The Syngenta Model encourages increased productivity and income for small-scale farmers by assisting in innovation to increase yields and support value added technologies.

ductivity of raw cashew and processing. Elsewhere in Binh Duong, farmers have formed farmers' associations to access credit to purchase inputs.[43]

Figure 5.4 Cashew marketing in Vietnam



Source: Author

At a second level, smaller traders sell cashew to bigger traders within or outside the commune. Some of the traders are even hired by the processing plants within the community.[44] There are different relationships between traders and processors as can be seen from the following. 'I (Luong Thi Hoai) and Minh Tho are relatives, so I only sell cashew to Minh Tho. Only when they are full, I sell to others.'[45] The traders' capacity differs according to the amount of credit they have for each consignment. Traders that are linked to processing plants also sometimes work as staff at those processing plants. 'From the beginning to the end of the season I can handle 8 tonnes per day on average, (but) in the middle (of the season) demand is higher. For instance, in the middle of season, there are a lot of cashew nuts so Minh Tho Company (the processor) is often late in paying, about a day or two days.'[46]

[43] Visit to Binh Duong, November 2010.
[44] Doan Nghiep Tu Nhan Minh Tho in Dak O is the only processing plant in Bugimap. There are more than 300 processing plants in Vietnam.
[45] Interview with a trader from Thuong Hoai, 29 January 2010.
[46] Interview with a trader from Thuong Hoai, 29 January 2010.

Photo 5.6 A typical trading centre in Binh Phuoc

Box 5.6 Processors' operations in Vietnam

Medium-sized processors (AMYCO), Long An and Thuong Hai, Bugimap

AMYCO is a family business that started 12 years ago as a trading company. It has always had a Quality Control Team (QCT). It has slowly moved into processing and currently has three branches. With about 100 workers, the company only processes about two or three tonnes of raw cashew a day. In March 2010, the company was operating at full capacity and processing 20 tonnes a day. This is equivalent to about 500 tonnes a month and 6000 tonnes a year. When the company receives more orders, two shifts are implemented. Workers involved in shelling and peeling are paid piece rate, while those in QCT are paid a monthly wage. Cashew is used as collateral at banks.

During processing, the raw cashew accounts for more than 50% of the total costs, followed by labour. 30% of the cashew is bought initially and more is purchased later due to a lack of storage facilities.

Large-scale processors (HA MYI Co Ltd:HAMYCO) and (MY LE), Binh Phuoc

Processing started five years ago in a number of factories. One processor has four factories with a fifth due to open soon (thanks to Japanese support). The company mainly processes raw cashew and tapioca. The owner was a cashew farmer, then a trader and finally moved into processing. The other company has its own cashew farm.

Though new to processing, the company has more than 1000 workers, producing 30 tonnes per day. 40% of their exports are sent to China and the rest goes to Hong Kong, the Philippines, South Korea, the US, Australia, Europe and Japan.

The processing capacity of the other company, with about 1000 workers, was around 50,000 tonnes in 2009.

Source: Visits to Thuong Hoai, AMYCO and HAMYCO processing plants in Long An Province and Binh Phuoc Province. Iinterview and observations by the researcher.

Thirdly, processors may buy their raw cashew from traders. It is common for processors to work with several traders with whom they have established a good working relationship. These traders then buy raw cashew as part of their job and supply processors. Such traders are subcontracted and receive funding from the processing plant. These differ in size. Large processors have a capacity of more than 10,000 tonnes per year; while medium-sized firms have a processing capacity of between 5,000 and 10,000 tonnes annually with a daily average of about 20 tonnes. Box 5.6 shows how processors operate in Vietnam.

The support system in Vietnam

Various economic reforms (*Doi Moi*) were undertaken in Vietnam in the mid-1980s in an attempt to move to a more incentive-led approach among producers and stakeholders. *Doi Moi* prioritized the implementation of three economic reforms concerning food staples, consumer goods and exports (Tri 1990). A ccomprehensive reassessment of policies related to agriculture and peasants was one of the measures planned to improve the relationship between the state and producers (*Ibid*.). In addition, the law relating to land gave ownership to the people (Wurfel 1994).[47] The *Doi Moi* reforms increased incentives for production, allocated land to farming families and limited the role of cooperatives.

Most of the initiatives in Vietnam came from producers, with some flexibility being provided in the on-going reforms. The call by *Doi Moi* to improve productivity was made possible by the efficient supply of farm inputs and the improved relationship between the state, farmers and other technicians.

Since *Doi Moi* and market reforms, farmers have had economic freedom regarding what and how much they produce. This offers producers more power as to what they produce but does not imply that the state takes a leading role. It is the farmers, followed by the producers, who have the power. For instance, the collapse of prices in 2000 saw farmers switch to rubber in Vietnam (see Graphs 5A3 to 5A5 in the Appendix). This was possible due to their accumulated savings and the fact that pepper provided flexibility for farmers to switch between perennial crops (cashew to rubber) regardless of any previously incurred sunk costs.[48] Despite the continued importance of cashew in Vietnam, alternative

[47] The Politburo's resolution on renovation aimed at creating a new driving force to develop agriculture by creating favourable conditions for individuals and private sectors to develop production, processing, services and other trade in agriculture. In this resolution, only cooperatives that were operating profitably were retained and the rest of the land was given to work-exchange teams or private holdings. Peasants started acquiring land as the resolution encouraged them to have as much as they wanted. Protests followed and this led to the Politburo's Directive No. 47 that was set up to assist in settling all land-related disputes in the South.

[48] Fieldwork was done from December 2009 to January 2010. Phone interview with Mr Duy, 23 November 2011. Cashew was commercially introduced in the late 1980s, while rubber became widely popular after 2000. See Graphs 5A3 to 5A5 in the Appendix that show the trend in the production of

crops and flexibility ensure that farmers receive a high price. As Graph 5A5 (see Appendix) shows, there is an increasing trend in the harvesting of rubber, while that of cashew is rising at a slower rate.

As a result of improved relations with farmers, the state has a set-up that provides inputs (seedlings and pesticides). This relationship with the state is linked to that with processors and involves assured markets for farmers. The smooth coexistence between the state, farmers and processors has meant that for the state to continue receiving foreign exchange, it has to support both the farmers and the processors.

Processors however need to make a profit to continue production and have to keep down their costs if they are to enjoy better profit margins. The costs associated with processing are mainly raw materials (in this case, raw cashew) and labour. Processors require a supply of raw cashew throughout the year and it is cheaper to obtain raw cashew from domestic sources than to import it. Given the benefits accrued from the local supply of raw material in Vietnam, upstream actors attract downstream actors by offering a good price for their raw material. For this reason, processors are obliged to pay farmers a good price to ensure that there is a constant cheap supply of raw cashew from a local source. They know that farmers have the freedom to switch to other crops that are seen to pay better.

Maintaining a high level of productivity requires incentives for farmers to continue producing raw cashew. It is cheaper to use local raw cashew than to import from elsewhere. Thus if the processing industry is to continue to flourish, they not only need to lobby and convince the government to provide better varieties, affordable inputs and tools for farmers but also to provide good price incentives for farmers. Better varieties produce more output and are more resistant to disease. The government plays a significant role coordinating research institutes and farmers to ensure that the processing industry is well served.

Farmers that dry their cashew earn higher prices. They do not become entangled in any of the issues related to grading as whatever is sold is paid for in full and it is up to the processors to grade the harvested cashew. In addition to supporting research to provide improved varieties, the government indirectly ensures high-quality cashew is produced. For example, a trader describes how local government is involved: ‘I’ll report to the police and Minh Tho Company any person who sells cashew nuts of bad quality. And then we force them to pay a fine. It happened in the past. Now, they don't do that anymore.’

Given the scale of the operations and the economic freedom in Vietnam, farmers, and then processors, have the most power. The state plays a coordinating role and is left to provide incentives, while the operation of the whole sector is mainly

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rubber, areas harvested and leading producers of rubber. Vietnam is still not a prominent player in this area.

in private hands and these players determine the rewards farmers receive and. in the end, earn foreign exchange for Vietnam. The presence of price and non-price incentives shows the influence of positive externalities, as was observed by the Vice Chairman of VINACAS (see Box 5.7).

This section on marketing has shown that both countries have non-complex networks for cashew where there are only a few steps from production to the final product. Most of what is produced is for export. Output from Tanzania and to a lesser extent from Vietnam still needs value addition, i.e. processing, roasting and flavouring before reaching its end consumers.

Box 5.7 Keeping the support system in check

Our success came because we care about our farmers, traders and processors, as there has to be collaboration and coordination with all the actors involved. The government must have the proper mechanisms in place to provide guidance. It should not be directly involved but communicate with and provide knowledge to farmers. The more knowledge there is given to farmers, the more power they have. There is a real need to increase productivity as we lack additional land so more technology and know-how have to be provided to farmers. In a way, the government invests in farmers and the farmer decides the price. The government invests in research institutes that then provide new (free) varieties that are more productive and disease-resistant. The government also subsidizes inputs and supports the agricultural bank that provides low interest rates for credit. And last but not least, the government invests in infrastructure, electricity and transportation.

Even with all this investment, farmers' returns need to be good to encourage them to continue producing. Farmers receive nearly 75% of the price as there is no middleman. Though the cost of maintaining cashew trees is lower than other trees, farmers' total profits are about US$ 1000 and if they earn less than US$ 3000 per ha they will likely switch to other crops.

Source: Vice Chairman of VINACAS / Director of Tan An Company Mr Nguyen Duc Thanh. Interview by the researcher.

The support systems in Tanzania and Vietnam differ, as do the value chain segments. Farmers in Tanzania are provided with inputs through the District Input Fund and outputs have been sold through the centrally controlled WRS since 2007. There are few players in input provision in Tanzania and a single legally recognized buyer of cashew. In Vietnam, inputs are sold at village markets and output is bought by traders who then sell it to local processors. There are multiple players in the provision of inputs and output trading in Vietnam.

Understanding Tanzania's performance

From the above discussion, three points can be highlighted to explain production performance in Tanzania.

- Weak coordination among the different actors has led to exclusive interventionist approaches and radical reversals in policy. These top-down solutions with negative externalities relying on standardized messages that allow the state to be both a regulator and performer are overwhelmingly evident.
- Price fluctuations coupled with a lack of economic freedom have led to neglect or the abandonment of farms in periods of low prices, with quality suffering the most. Farmers have been left in the margins and continue to receive residual payments.
- Coordination by the state contradicts and restricts the efficient involvement of other actors. Coupled with this, a poorly funded support system means it is difficult to pass on innovations to farmers.

Understanding Vietnam's performance

Three different points explain Vietnam's production performance.

- Economic freedom: the power is with the farmers who can choose what to produce (cashew, rubber or pepper) and how much they produce.
- Economies of scale allow for market clearance prices that satisfy farmers and processors with support from the government and research institutions. The continued high prices imply that raw cashew production is both of high quality and quantity. The reputation involved provides conjuncture between raw cashew and processors.
- Coordination by the government goes beyond what meets the eye. Adaptive efficiency: Vietnam has only liberated its economy and not its politics, and decisions are still taken centrally by the Communist Party.

The nature of implicit contracting determines the overall performance of the sector. Radical reversals of policies in Tanzania have resulted in low quality and quantity, while adaptive efficiency in Vietnam has resulted in high quality and high quantities of raw cashew.

Conclusion

Vietnam looks at policy holistically and differently from the intrusive Tanzanian state and is seeing improvements in production, productivity and the well-being of its citizens. Tanzania's position has not improved and there are still noticeable erratic changes in production, no or even declining changes in productivity and stagnating well-being.

Marketing in Tanzania has resulted in low-quality produce and low prices. This means that hold-up works adversely in Tanzania with farmers being locked in a Prisoners' Dilemma that leads to a low-productivity, low-quality equilibrium. In Vietnam, however, adaptive efficiency has resulted in farmers producing high-quality produce and high prices being offered by processors. This means that in Vietnam, hold-up is not only confined to cashew producers but also applies to cashew processors (with their own sunk costs) who have to confront the

fact that farmers may opt out of cashew in favour of a competing crop (rubber). This is a credible threat and thus promotes a balanced value chain focused on higher productivity, yield and quality.

It used to be believed that for Africa to develop, it had to mimic institutions like those in place in the West.[49] This literature, as Tendler (1997) pointed out, tended to draw conclusions in support of the superiority of market forces for solving government and economic problems and even poverty. Seeing the free market working in Vietnam, this case study of cashew has shown that a lot happens behind the scene that can act as a catalyst to enhance the entire sector through adaptive efficiency. Freedom of choice for farmers provides alternatives and is a credible threat to processors. While involvement of the state with the inclusion of a single stakeholder and the exclusion of the others restricts expansion of the entire sector, as is the case in Tanzania. Vietnam shows that markets that are strategically supported by the state perform better.

Cashew is more a cash crop by name or default in Tanzania as farmers who produce it seem not to be in control of their own efforts. Residual payments to farmers in Tanzania discourage an effective or efficient reduction in the transaction costs associated with marketing. Credit is important for maintaining trees and money is needed not only to buy inputs but also to hire labour and tools. The compatibility of machines between cashew and rubber allows farmers in Vietnam to escape the fallacy of sunk costs. Cashew farmers in Vietnam are gradually switching to rubber with the help of earnings from pepper and their own savings.

When looking at the Tanzanian case, it is easy to single out the involvement of the state as an impediment to the expansion of the cashew sector. The Vietnamese government is also heavily involved in the cashew sector and provides new varieties, improved roads, electricity, and research and development, and also regulates standards for processors. A strong state with a strategic industrial policy provides a favourable environment for the private sector to operate in and allows adaptation to new environments in a sustainable manner. In Tanzania, the state allocates resources to minimize the costs of production for only one group, i.e. the farmers in the short term, with limiting multiplier effects. The marketing of cashew and inputs in Tanzania is centralized, with the state playing a leading role. The market for kernels has, however, remained on the free market, while raw cashew, kernels and inputs are all on the free market in Vietnam.

The issue here is not the involvement of the state *per se* but rather the role it plays. When the state operates as a catalyst and involves other stakeholders, backward linkage through vertical integration and economies of scale are encouraged. But when state investment seems to provide incentives that support only some stakeholders, i.e. forward linkage, this limits the benefits to those stake-

[49] Ellis (2011), Booth (2010) and Tendler (1997).

holders and results in diseconomies of scale for the entire sector. The latter acts, in fact, as a subsidy to foreign actors in the cashew value chain that are happy to obtain raw cashew and process them elsewhere. This loss of added value via other stakeholders can be tapped if the state reorganizes its processes and offers incentives to all stakeholders involved in cashew production. The case of cashew shows that 'the specification of the market mechanism is essentially an incomplete specification of a social arrangement' (Sen 1985).

The support system for cashew in Tanzania faces challenges, especially regarding resources and insufficient and aging staff. The inability to create a strong private sector forces the support system to act defensively and provides little to no room for manoeuvre with regard to the provision of inputs. There has never been a supply response regarding inputs but the support system should seek ways of increasing competition among the providers of inputs, like jute bags and transport, and transfer some power to the farmers. There is the threat of farmers wanting to form or join groups like UWAKOTA[50] that would make running the WRS and the distribution of funds more difficult.

In Tanzania, spot contracting works through centralized marketing and results in low-quality produce and low prices. This means that hold-up in Tanzania works adversely, with farmers being locked in a Prisoners' Dilemma, which leads to a low-productivity, low-quality equilibrium. In Vietnam, on the other hand, relational contracting has resulted in high-quality produce by farmers and high prices being offered by processors. This means that hold-up there is not only confined to the cashew producer but also applies to the processors who have to confront the threat that farmers may opt out of growing cashew in favour of a competing crop, such as rubber. Promoting relational contracting is thus focused on higher productivity, yield and quality.

The problem of spot contracting is solved by creating trust, which is cemented through reputation. The issue of trust in Vietnam is at a different level. With economies of scale, farmers who already have economic freedom need to be paid fairly to avoid the collapse of the whole system. At the same time, big processors need to adhere to standards and act as an example for other processors. The government would ultimately find it easier to control a few big processors but they might have to subcontract part of their work to smaller processors. Trust and reputation matter a great deal in relational contracting.

Vietnamese relational contracting is an example of vertical integration/-backward linkage. Showing that scale matters and that the 'presence of aggres-

[50] Others include (i) Masasi farmers and Marketing association (Mafama), (ii) Namajani/Mlingula wakulima wa korosho (Namwako Masasi), (iii) Umoja wa wakulima wa korosho Newala (Uwakone), (iv) Unasemaje Farmers Association (Mtwara) and (v) Wakulima wa Korosho Masasi (Wakoma Co Ltd). http://www.mwananchi.co.tz/news/5-habari-za-siasa/17164-wakulima-kuishitaki-serikali-mahakamani.html (3 November, 2011).

sive private sector suppliers of improved inputs or shifts in relative prices, or changes in access of farmers to local market and inputs – all of which would affect the expected returns from new technology'[51] may explain the differences in productivity.

The hold-up problem is solved in Vietnam by farmers having an alternative crop, namely rubber, which is a credible threat for processors who badly need domestically grown raw cashew. Here again, farmers do not sign any contract with processors but there is the ever-present threat of them switching crops. The case of cashew in Vietnam represents a reputation game in game theory.

[51] Bindlish & Evenson (1993) cited in Tendler (1997: 99).